A cyclic $p$-gonal Riemann surface $X$ is a surface admitting a regular $p$-sheeted morphism on the projective line, the $p$-gonal morphism. A Riemann surface is real if it admits an anticonformal involution, a symmetry, as an automorphism. Real $p$-gonal surfaces, with $p$ prime, are defined by equations of the form $y^p = Q(x)$, where $Q(x)$ is a polynomial in $x$. A surface is real $p$-gonal if the $p$-gonal morphism commutes with the symmetry.

We calculate all the automorphisms groups of cyclic $p$-gonal and real $p$-gonal Riemann surfaces. This is a genralization of the work of Bujalance et al. for hyperelliptic and trigonal Riemann surfaces (Received September 03, 2012)